

ABSTRACT

The invention is a wafer having variable acoustic properties. The wafer may be used as a substrate over which to form an ultrasonic transducer, an IC, or may be used as a circuit board. An ultrasonic transducer formed on the wafer may include piezoelectric ceramic transducer elements or MUT elements. By controlling the acoustic impedance of the wafer upon which the integrated control circuitry for an ultrasonic transducer is formed, the acoustic impedance of the wafer can be matched to the acoustic impedance requirements of the ultrasonic transducer. Furthermore, by the addition of internal voids, the wafer reduces or eliminates the lateral propagation of acoustic energy through the wafer.